ORDEM DOS ENGENHEIROS (OEng)

ENGINEERS PORTUGAL

QUALITY ASSESSMENT TO AWARD THE EUR-ACE® LABEL

(SECOND CYCLE - BOLOGNA PROCESS MASTER DEGREE PROGRAMMES)

PROCEDURE - APPLICATION FORM FOR INSTITUTIONS

(For Programme applications)

Last version

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INTRODUCTION

ENAEE (European Network for Engineering Accreditation) was founded on 8 February 2006, at the end of the first EUR-ACE® project, by 14 European Associations concerned with engineering education.
It stemmed from **ESOEPE**, *the "European Standing Observatory for the Engineering Profession and Education",* that had been established on 9 September 2000 with the purposes of:

a) Building confidence in systems of accreditation of engineering degree programmes within Europe;

b) Facilitating exchange of information;

c) Developing voluntary agreements on accreditation of engineering educational programmes and recognition of engineering qualifications and;

d) The development of standards for competency requirements of graduate engineers.

Members of ENAEE are agencies and professional organisations with an interest in the education and formation of engineering professionals.

ENAEE is the European body responsible for awarding authorisation to accreditation agencies to award the EUR-ACE® label at first and second cycle to engineering programmes which they have accredited.

In April 2004 ESOEPE was instrumental in preparing and submitting to the European Commission the application for the (first) EUR-ACE® project (2004-2006).

In October 2005, In view of the emergence of EUR-ACE®, it was decided to transform ESOEPE from an "observatory" into the registered international not-for-profit Association ENAEE, that was formally established on 8 February 2006 in Brussels.

The first ENAEE General Assembly took place on 30 March 2006; since then, Assemblies have been held regularly each year.

The implementation of the EUR-ACE® system started in 2007, with the award of the first EUR-ACE® labels. ENAEE is the European body responsible for awarding authorisation to accreditation agencies to award the EUR-ACE® label at first and second cycle to engineering programmes which they have accredited.

The founder members of ESOEPE in September 2000 were: UK: EC (now EngC); FR: CTI; DE: ASII (now ASIIN); PT: OEng (Ordem dos Engenheiros); IT: CoPI; EU: E4 (now TREE -Teaching and Research Engineering in Europe)-no member any more.

The EUR-ACE® label is distinguished into "EUR-ACE® Bachelor" ("European Accredited Engineering Bachelor") and "EUR-ACE® Master" ("European Accredited Engineering Master") respectively when the programme is accredited at the FC or SC level.

1. LIST OF PREREQUISITES AND REQUISITES

PREREQUISIT	OBJECTIVES	EVIDENCE
PR-1- Legitimacy of the functioning of the Programme	To proof the legitimacy of the functioning of the Programme.	Announcements in official organs, formalized decisions, authenticated documents and minutes of meetings.
PR-2- Organization of the process	To consider the organization of the submitted information.	To confirm the existence of an index in all documents; to verify if all the requested information has been provided.
PR-3 – Qualification awarded	To evaluate the degree obtained by the graduates who attend the Programme.	

REQUISITE		OBJECTIVES	EVIDENCE
1 – Programme framework	1.1- Strategy of the Higher Educational Institution regarding Education in the area of the Programme / Educational needs of the stakeholders and market niches / Financial Resources (REQUISITE 1)	To verify the School's understanding about the characteristics of its offers in the Programme market and the identification of potential market niches to attain. To verify if the School Identify Educational needs consulting relevant industry and labour market organisations and other stakeholders and verify if this is done in a way to facilitate the programme aims in terms of professional profile. Sustainability and Financial Resources.	To characterize the offer provided by the School and its integration in the general context of the teaching projects competing with it. Identification of educational needs of the labour market and other stakeholders. Empregability.
	1.2- Programme evolution (REQUISIT 2)	To verify the changes in the functioning of the Programme in the recent past and to identify the shown tendencies.	List of changes in the functioning of the Programme, new designations and respective justifications.
	1.3- Cooperation with other institutions (REQUISIT 3)	To identify the School's links in the Programme's thematic areas with national and international Institutions in the scientific, pedagogic and professional ambit.	List and content of protocols, partnerships and collaboration with external entities as well as the effect of such links.
2 – Programme development / Teaching and learning Process	2.1- Specific competences and minimum requirements (REQUISIT 4)	To verify if the programme aims have been developed in terms of professional profiles of the graduates. To identify the competences more closely related to the professional practice and to verify its coherence with the goals of the Programme.	Set of programme aims. Substantiated characterization of the specific competences developed in the Programme and its justification through the Programme Plan. Detailed evidence of the satisfaction of the established minimum

REQUISITE		OBJECTIVES	EVIDENCE
		To verify the satisfaction of the minimum requirements.	requisites.
	2.2- Curriculum structure and pedagogic programme / Planning and Management of the Learning process (REQUISIT 5)	To verify if the sequence and the content of the themes dealt with ensure a conducting line of transmission of knowledge without repetitions or gaps. To verify if the totally of the learning outcomes of the modules accumulate to constitute the programme outcomes. To verify if the learning process has been planned in order to enable students to achieve the programme outcomes in expected time. To verify how the learning process is managed by the School.	Tables that show the curricular structure and the articulation of the themes; minutes of the Programme coordination meetings. Characteristics of the Programme units (ECTS, learning outcomes, pre-requisites, didactical material, assessment of students learning. Timetable of didactic activities and examinations. Documentation used to control the learning process and students learning assessment.
	2.3- Characterization of the content of academic activities (REQUISIT 6)	To identify the obtained formation with the attendance of the subjects and of all the other academic activities developed in the Programme.	Demonstration of the coherence between the pedagogic goals, the presentation to the students of the themes treated and the exams carried out. Presentation of exams papers and characterization of project and laboratorial works.
	2.4- Outcomes (REQUISIT 7)	To identify the results of the given training and to verify if such training has had effective results in the students education. To verify if the programmes outcomes are consistent with the EUR-ACE® Programme Outcomes for accreditation and with the established programme aims.	Set of programme outcomes. Real projects and problem solving, group dynamic, games with calibrated models, persistence tests, field work, action in hostile environment, case studies, oral and written communication in Portuguese and foreign languages.
3- Teaching Staff	3.1- Teaching adequacy (REQUISIT 8)	To verify the suitability of the training of the teachers, their experience in Engineering activity, their stability at the service of the School and their permanence in the School. Teachers of engineering courses, whose basic degree is in engineering, must be registered in	Characterization of the training of the teachers in their teaching area, maps with the teachers' seniority in the School and survey of their professional qualification.

REQUISITE		OBJECTIVES	EVIDENCE
		the Oeng - Engineers Portugal. It is also be a good practice to have the title of specialist in Engineering Teaching and Research by OEng.	
	3.2- Involvement of the teachers in the running of the Programme (REQUISIT 9)	To verify if the School attends to the anxieties, worries and needs of the teachers.	Credible data on the presence of teachers in the School; evidence of the effects of the inquiries to the teachers, synthesis reports about the internal information, activity reports, minutes with decisions.
4- Students	4.1- Admission, monitoring and evaluation of the students (REQUISIT 10)	To verify the existence of coherence between what is intended to teach, the demand that is made to the students and their ability to grasp the intended goals.	Characterization of the students who enter the Programme, list their school success by subject, data on their complementary training activities.
	4.2- Evaluation of the Programme by students, recent graduates and employers/ Partnerships for training periods and mobility (REQUISIT 11)	To verify if the School attends to the students' expectations and worries about their professional performance. To verify if exist partnerships which enable training periods outside the university and partnerships which enable international study mobility periods.	Conclusions about he results of the Inquiries and documental proofs of the decisions made. List of partnerships enabling training periods and international mobility periods.
5- Facilities and Pedagogic Resources	5.1- Suitability of premises (REQUISIT 12)	To verify the functionality, capacity and quality of the premises.	Only verified at the School visit.
	5.2- Pedagogic resources/ (REQUISIT 13)	To prove the existence of equipment and other resources and working tools available for the students.	Only verified at the School visit.
6- Ensuring Quality	6.1- Programme monitoring (REQUISIT 14)	To verify the substantiation of the strategy for improvement of the functioning of the Programme and the performance-related information system	Data, ratios, minutes, information, instructions, procedures that support the quality improvement strategy.
	6.2- Corrective actions and quality plan (REQUISIT 15)	To verify if the evaluation processes of others entities have any teaching improvement effect.	Synthesis reports of information provided by teachers, activity reports, minutes, information, instructions, procedures, and quality improvement plan.

2. LIST OF CRITERIA EMPLOYED AND INFORMATION REQUIRED FOR PROGRAMME ASSESSMENT

2.1. PREREQUISITES

PREREQUISITE 1 – LEGITIMACY OF THE FUNCTIONING OF THE PROGRAMME

Proof of the legal situation must form part of the documentation handed in as part of the application process. As such the following should be provided:

I. Detailed information concerning the legality of the functioning of the Programme in accordance with the internal regulations of the academic institution or those external to it, with bodies under ministerial guidance, with the law or with the regulations regarding the submission of the application.

II. Contractual establishment and proof of the type of service provided and any responsibilities assumed in those cases where there are protocols involving service provision by some academic institutions for others (such as is the current situation with military institutions).

PREREQUISITE 2 – ORGANISATION OF THE APPLICATION PROCESS

The application should be complete, organized for easy reading and indexed, numbering the information supplied and identifying the electronic pages where supplementary information may subsequently be obtained.

For this purpose, the following should be observed:

I. Correct organization of easily browsable documentation, to be handed in to the Portuguese Institution of Engineers (OEng).

II. Identification of the member of staff responsible for selection of the information presented.

III. Specification of all the components which form part of the application process in the official letter which accompanies the application. Existence of an index in every document.

PREREQUISITE 3 – QUALIFICATION AWARDED

Graduation must bring added value through professional recognition of competences.
Regarding this objective, the following should be provided:

I. Identification of the qualification awarded following attendance of the programme.

2.2. REQUISITES

2.2.1. PROGRAMME FRAMEWORK (R1, R2, R3)

REQUISITE 1 – STRATEGY OF THE HIGHER EDUCATIONAL INSTITUTION / EDUCATIONAL NEEDS OF THE STAKEHOLDERS AND MARKET NICHES / FINANCIAL RESOURCES

An Engineering Programme must be sustained with respect to the financial aspects, professional interest and the satisfaction of social needs. The reasons for the sustainability of the Programme must be clearly expressed and documented, based on objective and credible information.

For this purpose the following should be provided:

I. Self evaluation of strengths and weaknesses of the Higher Educational Institution within the context of other similar Programmes available.

II. Identification of the objectives of the programme and clarification of what differentiates the Programme from the aforementioned Programmes.

III. Analysis of the marketplace perspective of the Higher Educational Institution as well as of the opportunities to be taken advantage of and the position it has adopted with regard to the threats with which it is faced.

IV. Identification of educational needs of the labour market and other stakeholders. Empregability.

V. Analysis of sustainability of the programme regarding the financial, pedagogic and institutional aspects and resources.

REQUISITE 2 – PROGRAMME EVOLUTION

The restructuring of an Engineering Programme must be in line with a previously diagnosed need, and, therefore, has to be well justified.

For this purpose, the following should be provided:

I. Description of the evolution of the programme in the last 5 years, specifying the main restructuring, changes of name and objectives behind each of these alterations and the date on which they came into force and the reasons for their adoption.

II. Information on the year in which the first graduates after the latest restructuring are/were to graduate.

REQUISITE 3 – COOPERATION WITH OTHER INSTITUTIONS

The list of partnerships with other national and foreign institutions is one of the objective ways of gauging the prestige of the institution being evaluated and it is thus important to carry out detailed identification of these partnerships, their objectives, participants and results already obtained.

For this requisite, the following should be provided:

I. List of the academic and professional bodies with which the school has formalized links with, and also the types of cooperation agreements which have been established for technical and scientific purposes and those where only an institutional agreement exists.

2.2.2. PROGRAMME DEVELOPMENT / TEACHING AND LEARNING PROCESS (R4, R5, R6, R7)

REQUISITE 4 – SPECIFIC COMPETENCES AND MINIMUM REQUIREMENTS

The definition of the specific areas which are minimally required for training in a given speciality is an essential element of the formulation of the programme.

Is important to verify if the programme aims have been developed in terms of professional profiles of the graduates.

As such, the following should be provided:

I. Justification with regard to satisfying minimum Programme requirements.

II. Set of programme aims.

REQUISITE 5 – CURRICULUM STRUCTURE AND PEDAGOGIC PROGRAMME/PLANNING AND MANAGEMENT OF THE LEARNING PROCESS

The curricular structure must lead to coherent articulation between subjects through a pedagogically appropriate sequence of subjects subordinated to the specific skills, so as to mould the Programme within a pedagogically structured process.

Is important that the totally of the learning outcomes of the modules accumulate to constitute the programme outcomes. The learning process must be planned in order to enable students to achieve the programme outcomes in expected time.

In order to assess this requisite, the dossier should include:

I. Characteristics of the Programme units (ECTS, learning outcomes, pre-requisites, didactical material, assessment of students learning.)

II. Presentation of the programme, establishing a connection between disciplines and scientific principles, evidencing that it is in accordance with one of the specialities defined by the Portuguese OEng.

III. Identification of the diversity of learning activity, viz. - laboratory and workshop training; presentation of problems for synthesis and integration of knowledge in disciplines for conception and design; field work, seminars and industrial training.

IV. Records of study visits, seminars and talks given by visiting speakers, whose role in training is fundamental in order to provide knowledge of the professional world which exists outside the Higher Education Institution.

V. Information on the annual visitors' programme at the beginning of the academic year, on its advertising and on how students participation in visits is taken into consideration in their grading.

VI. Timetable of didactic activities and examinations.

VII. Information on rules for changing the natural sequence of disciplines and grounds to expel a student.

REQUISITE 6 – CHARACTERIZATION OF THE CONTENT OF ACADEMIC ACTIVITIES, PEDAGOGIC GOALS AND TOOLS

Pedagogic activities should be described based on the pedagogic objectives which are seen to provide added values and these should be compatible with the themes dealt with, the pedagogy used, the tools employed and the evaluation carried out. The curricular enrichment obtained through innovative pedagogic processes must be shown to the Assessment Commission with emphasis put on showing their objective results.

For this purpose, the information supplied should highlight and allow to assess:

I. Pedagogic objectives:

   a. In disciplines aiming at knowledge integration - the capacity to conceive, dimension or optimize technical and economic aspects and propose solutions;

   b. In applications oriented disciplines - the capacity to run tests, to interpret results and to take conclusions about quality, feasibility or technical-economical interest of the proposed solutions;

   c. In general - developing of competencies to diagnose, optimize and propose innovative solutions in accordance with the social reality and environmental protection requirements;

II. Communication skills.

III. Leadership behaviour within group work.

IV. Criteria for the selection of seminar subjects and talks and assessment of the students' reports.

V. Informatics tools employed

VI. Promotion of the use of foreign languages.

VII. Laboratory work

VIII. Students stimulation to solve problems requiring perseverance.

IX. Suitability of assessment methods with relation to pedagogic objectives.

REQUISITE 7 – OUTCOMES

I. To verify if the outcomes, as presented in Section 4 are fulfilled

II. To verify if the programmes outcomes are Consistent with the established programme aims.

2.2.3. TEACHING STAFF (R8, R9)

REQUISITE 8 – TEACHING ADEQUACY

The description of the training of all members of staff in the areas they teach is fundamental regarding the evaluation of the conditions under which teaching is carried out.

For this requisite, the dossier should provide:

I. Identification of the level and type of research activity of the academic staff.

II. Identification of the situations in which the Academic Staff are carrying out activities in the field of Engineering, related with the subjects they are teaching, outside the Higher Education Institution.

III. Identification of members that occupy important posts in companies and non-academic institutions connected with the practice of Engineering and those who carry out academic activities in other Engineering Schools.

IV. Evaluation of suitability of teachers´ training, not only in the academic area in which they are lecturing but also in the areas of pedagogy and student assessment.

V. Analysis of the Teaching Staff's teaching load and of the availability to provide support to the students as well as to participate in academic life and cooperate with students in the preparation of visits, seminars and other technical and cultural events.

VI. Record of the rotation of the Teaching Staff within the Higher Education Institution as well as of the actual time physically present in each of the Institute's premises, so as to enable an evaluation of the stability and assiduity of the Teaching Staff.

VII. Identification of the number of teaching staff enrolled in the OEng. Teachers of engineering courses, whose basic degree is in engineering, must be registered in the Oeng - Engineers Portugal. It is also be a good practice to have the title of specialist in Engineering Teaching and Research by OEng.

REQUISITE 9 – INVOLVEMENT OF THE TEACHERS IN THE RUNNING OF THE PROGRAMME

There has to be clear evidence of the opinions shown by teachers for this issue to be satisfactorily dealt with and this must be documented with proposals, minutes, decisions, actions and numerical data. There must be routine procedures established to provide a forum to receive the opinions and proposals of the teaching staff.

For this purpose, the dossier should provide evidence of the influence of teaching staff in:

I. Evaluation of the abilities and preparation of the candidates for higher education, diagnosis of the main gaps on the part of these candidates and suggestion of remedial measures for the difficulties which have been detected.

II. Evaluation of the quality and functionality of the premises and their corresponding suitability for teaching.

III. Coordination between the agents that participate in the academic activity, recorded through minutes, with conclusions showing the principal needs identified by the teaching staff.

Complementary, information should be supplied evidencing that:

IV. Regular analysis based on surveys or reports by the teaching staff are object of reflection on the part of the institution's senior figures, who should specify a set of procedures, hierarchically ordered in terms of priorities, to resolve any problems detected.

V. Other aspects which affect the motivation of the teaching staff (such as questions concerning remuneration; the manner in which teaching staff is hired and opportunities to progress along an academic career; the premises which they use; technical and administrative support) must be concern of the institution governance bodies.

2.2.4. STUDENTS (R10, R11)

REQUISITE 10 – ADMISSION, MONITORING AND EVALUATION OF THE STUDENTS

The conditions of entry must match the demands placed on the students during attendance on the Programme. Student Failure should be seen as indicating inefficacy of the educational system.

Students must be encouraged to become part of the Higher Education Institution during the Programme, come into contact with the realities of engineering, establish links with people, entities and locations which can motivate them professionally and complete their humanistic training.

This requisite should be dealt with in the report, by the supplying of information on:

I. Admission criteria of the candidates to the Engineering Higher Education Programme for the previous 5 years.

II. Definition of the prior knowledge which the students need in order to attend the programme.

III. Quantified data and conditions under which students can transfer from other Higher Education Institutions in recent years, as well as the results in terms of academic success.

IV. Regular information for the students about the running, regulations and procedures of the Higher Education Institution, through posting this information on the Institution's web page.

V. A Active encouragement by Higher Education Institution of attendance of foreign language courses and professional training during holiday time and student exchanges with other Higher Education Institutions."

VI. Follow up and periodic assessment of students' expectations by the Academic Institution.

VII. Involvement of students in academic, cultural and sporting activities.

VIII. Evaluation of students' general performance.

REQUISITE 11 – EVALUATION OF THE PROGRAMME BY STUDENTS, RECENT GRADUATES AND EMPLOYERS. PARTNERSHIPS FOR TRAINING PERIODS AND MOBILITY

There must be clear evidence of results stemming from an analysis of surveys. These can be in the form of minutes, proposals, decisions and real action. There are, nevertheless, factors that make a direct extrapolation of the quality of teaching in a given Higher Education Institution impossible,

namely those linked with the graduates' personal development as well as the opportunities given to them.

For this requisite, evidence should be supplied on:

I. Students' evaluation of teaching staff, their pedagogic ability and the bond they create with students.

II. Control system of these pedagogic evaluation tests.

III. Disclosure of the results of students' evaluations of the teaching system's performance with the focus on positively influencing teaching standards.

IV. List of partnerships enabling training periods and international mobility periods.

V. Evaluation of the Programme by recent graduates, pointing out the most significant professional problems subsequently encountered.

VI. A systematic way of collecting opinions of graduates with a certain level of professional maturity, concerning skills they gained at the Higher Education Institution.

VII. Evaluation of graduate's professional success.

2.2.5. FACILITIES AND PEDAGOGIC RESOURCES (R12, R13)

REQUISITE 12 – SUITABILITY OF PREMISES

Higher Education Institution installations must have a level of comfort and be suitably functional in accordance to their usage.

For this requisite, the following evidence or information should be provided:

I. Quality of premises and their suitability for the purposes allocated to them.

II. Quality of the maintenance of premises and their state of use.

III. Number of classrooms, laboratories and amphitheatres with regard to the size of the student body using them.

REQUISITE 13 – PEDAGOGIC RESOURCES

This requisite includes a list of items as presented below. The degree to which this requisite is met can only be gauged during the visit to the Higher Education Institution.

The following should be assessed:

I. Laboratory equipment and conditions of use.

II. The correct storage of dangerous, explosive or inflammable products and materials (of paramount relevance) .

III. Digital access to up-to-date journals, publications and information and good facilities for reading, searching for information, and copying information.

IV. Enough space in the Library for students to work and enough space for the storage of the documents contained within.

V. Access to informatics resources for training and the existence of a wireless network.

VI. Software applications made available in accordance with subjects that must be up-to-date and supported by enough manuals.

VII. Study and recreational facilities both in class time and break time for students undergoing training, by providing bar and canteen facilities.

VIII. Support facilities (refectory, stationery shop, study rooms, meeting rooms, etc.) for teaching staff and students, centrally located and easily accessible.

IX. Offices and working facilities for Teaching Staff and Technical Support Staff with suitable levels of comfort and with easy access near the individual's main working area.

X. Specialized teaching staff, technical support and funding allocated for students to be able to carry out voluntary Engineering work.

XI. Sport facilities.

XII. The use by the Higher Education Institution of external premises and services to make good their own shortcomings, along with an exact description of how they are used and under what conditions.

2.2.6. ENSURING QUALITY (R14, R15)

REQUISITE 14 – PROGRAMME MONITORING

For this requisite to be met the Higher Education Institution must have a performance-related information system to provide significant data about the quality of its service provision.
This should include:

I. Indicators that are periodically calculated and then collectively interpreted, thus allowing remedial action to be taken whenever necessary.

II. Information on student failure and programmes to reduce the failure rate.

III. Information on average length of time needed to complete the degree programme.

IV. Information on number of papers and reports of innovative pedagogical experiences published by members of staff.

REQUISITE 15 – EFFECTS OF OTHER EVALUATIONS AND THE QUALITY PLAN

This requisite, of fundamental importance for the Higher Education Institution, concerns documenting the criteria behind prioritizing problems, how it plans to solve these problems and how it attempts to solve them in practice.

For this purpose, the following should be clearly identified:

I. Main factors involved in the improvement of quality.

II. Quality Plan and the member nominated to carry out its monitoring.

3. APPLICATION PROCESS

3.1. APPLICATION SUBMISSION

The application must be accompanied by suitable documentation and records, both for reasons of thoroughness and of efficiency, so as to facilitate the formal preparatory phase of the applications.

The submission is made in the form of a letter, signed by the Rector's Office, Academic Council, or other Higher Education Institution management body. It is addressed to the Chairperson of the OEng and should contain the name of the Higher Education Institution and the member of teaching staff responsible for the process and any contact with the OEng.

Along with this letter, 5 pens must be sent with the application, or everything can be sent via email with a link as a way of accessing all the information necessary for the evaluation.

The Higher Education Institution can break off the process at any time by means of a registered letter. The process will be reinstated at the Higher Education Institution's request in the same way that the initial application was tendered. This will then be acted on as and when the OEng is able to process it.

3.2. ASSESSMENT COMMISSIONS

Following approved guidelines, the Assessment Commissions have three members, appointed by the Admissions and Qualifications Board. By appointment of the Board, one of such members acts as Chairperson of the Assessment Commission.

At least 50% of the committee members must be from the industry. All Assessment Commission members are trained on the EUR-ACE® assessment process before carrying out the visit. In those cases where the Programme covers several areas of specialization, the Assessment Commission composition will depend on the agreement between representatives of the respective areas of specialization within the Admissions and Qualifications Board.

The Assessment Commission's work on Programme evaluation is carried out autonomously. They define their internal organization, namely they choose and define the role of the rapporteur and they agree on the programme of visits.

The Assessment Commission is supported by OEng's Qualification Admission Department that is responsible for the organization of the respective quality assurance dossiers and for the organization of the visits to the Higher Education Institutions.

The Qualification Admission Department has a coordinator of the EUR- ACE® evaluations that follows the entire national evaluations processes and is always present during the site visits.

3.3. VISIT TO THE HIGHER EDUCATION INSTITUTION

The visit will take place over two working days and the visitors will be accompanied by the Higher Education Institution contact named by the Institution to accompany the Programme Assessment process. The visit will result in a report drafted by the Assessment Commission, in which an outline will be given of aspects which do not meet standards and a general appraisal of the Programme, focusing on the strong and weak points along with any further unsatisfactory factors.

A draft Visiting Programme must be shown to the Higher Education Institution for comments and approval prior to the visit. The Higher Education Institution must be asked to supply written acknowledgement to show they have been informed of the date and the Programme. A detailed programme for the visit is to be drawn up by the Higher Education Institution for the dates concerned so as to establish the itinerary and identify areas to be visited, as well as the names of those who will be directly involved in the visit.

Data and general information about facilities is to be collected during the visit, through inspection of documentation, interviews and visits to the Laboratories and workshops, as well as libraries, computer rooms and other installations used for pedagogic purposes. The facilities to be visited selected by the HEI must include examples of the course's key laboratories and rooms so that the visit does not exceed 1 and a half hours.

Works, exams and final project works must be made available for consultation without confidentiality limitations, such as internship reports. Consultation must be carried out during the visit for at least 1 hour, including a direct exchange of impressions with the respective teachers.

Information obtained in interviews should be supported by documents, records, breakdowns, direct observation and any other evidence that proves that any statements made are not merely statements of intent but rather correspond to actual situations.

All documents used are to be considered confidential by the Assessment Commission and when the Higher Education Institution has expressly requested this, then extra care should be taken.

Aspects that do not meet standards are to be identified and presented to the Higher Education Institution, suitably justified, with mention of the factors behind the diagnosis and putting forward suitable suggestions.

3.4. INTERVIEWS

The purpose of these is to hear teaching staff give their opinions about the work they carry out, the support given to them by the Higher Education Institution as far as their career paths are concerned, the dialogue they have with students and management, the manner in which they are encouraged to keep up to date, the way they stimulate the acquisition of Engineering skills (outcomes) by students. The availability of time they dedicate to the Higher Education Institution and the way they manage to keep their motivation.

The information collected must be triangulated with opinions of students: how they behave, identifying the strengths and weaknesses of the Programme from their perspective, to what extent they feel supported by the Higher Education Institution, how they identify with the profession they have chosen to study and how stimulated they feel by their studies.

Employers will also be interviewed who will provide important information about the acquisition of skills (outcomes) of Programme holders in carrying out their tasks in companies.

During the visit, the Higher Education Institution should also ensure that any aspects that could lead to unsuitable interpretation or even important situations that may pass unnoticed are clarified. The same is true for any evidence deemed not to meet standards, which may be extremely difficult to resolve.

3.5. UPDATE OF INFORMATION

If there have been changes of either a curricular or other nature in the period between the submission for evaluation and the date of the visit, then these should be pointed out by the Institution and considered by the Assessment Commission. Higher Education Institutions are also called on to update any data they have submitted that may have become out of date, should a period of time lapse before the visit takes place.

3.6. EVALUATION REPORT AND REPORT FLOW

Following the visit, the Commission will draft a **Commission´s Report,** which is sent to the Higher Education Institution for comments.

After the Higher Education Institution's comments have been received, the Commission reviews the Report and prepares a **Proposal of Decision,** on the form:

- NOT ACCEPTABLE to grant the EUR-ACE® Label, or
- ACCEPTABLE to grant the EUR-ACE® Label (valid for 5 years), which may be given with recommendations if there is any.
- ACCEPTABLE to grant the EUR-ACE® Label (valid for a maximum of 3 years), which may be given with recommendations and restrictions (for cases in which immediate remedial action is lacking and where the carrying out of these changes is checked at a later date by the Assessment Commission).

The two documents (Commission's Report and 'Proposal of Decision') will become part of the Application Process.

The Application Process will then be discussed by the CAQ, which will submit a proposal for approval by the National Board of Directors (CDN).

The CDN may ask for additional clarification, which will be provided by the CAQ in cooperation with the Assessment Commission.

The final decision, signed by the President of the Portuguese OEng, is sent to the Higher Education Institution.

At the end of the process, a satisfaction survey is sent to the HEI.

3.7. NECESSARY INFORMATION FOR THE APPLICATION

Information for examination by the Assessment Commission must be sufficient but never so excessive as to hamper its processing. All documents are to have an index and information is to be condensed and presented in such a manner as to allow easy understanding of the aspects under analysis.

As regards information handed in on paper, this should preferably be hole-punched and removable, with clear dividers between different types of sheets of paper. Subject papers should be ordered according to year and exams are to be kept separately, in the same order as the subjects.

If the institution sees fit, the required information may be posted on the Higher Education Institution's web page, namely:

- Programme curriculum: subjects, theoretical, practical and theoretical-practical class times and the areas they belong to (Mathematic, Physics, etc.).

- Programme summaries, containing a summary of content, framework, pedagogic objectives, theoretical, practical and theoretical-practical class times, ECTS, a list of practical and obligatory reports and the most recent exam results.
- Teacher profile sheets containing Curriculum Vitae, Higher Education Institution timetable and length of time as an OEng member (if applicable). Identification of the number of teaching staff enrolled in the OEng. Teachers of engineering courses, whose basic degree is in engineering, must be registered in the Oeng - Engineers Portugal. It is also be a good practice to have the title of specialist in Engineering Teaching and Research by OEng.
- Methods for accessing technical and scientific information in book, magazine and electronic formats.

4. OUTCOMES

4.1. KNOWLEDGE AND UNDERSTANDING

The underpinning knowledge and understanding of science, mathematics and engineering fundamentals are essential to satisfying the other programme outcomes. Graduates should demonstrate their knowledge and understanding of their engineering specialisation, and also of the wider context of engineering.

Second Cycle graduates should have:	**Documental Evidence**	**Personal Interview Evidence**
An in-depth knowledge and understanding of mathematics and sciences underlying their branch of engineering and of engineering disciplines underlying their specialisation, at a level necessary to achieve the other programme outcomes.	Programme content; Technical exercises; Exams.	Learning attraction; Technical interest; Engineering talent.
A critical awareness of the forefront of their branch and of the wider multidisciplinary context of engineering and of knowledge issues at the interface between different fields.	Programme content; Case studies; Documentation access tools; exams; works.	Decision capacity; Exemplary attitude; Fundamental knowledge.

4.2. ENGINEERING ANALYSIS

Graduates should be able to solve engineering problems consistent with their level of knowledge and understanding, and which may involve considerations from outside their field of specialisation. Analysis can include the identification of the problem, clarification of the specification, consideration of possible methods of solution, selection of the most appropriate method, and correct implementation. Graduates should be able to use a variety of methods, including mathematical analysis, computational modelling, or practical experiments, and should be able to recognise the importance of societal, health and safety, environmental and commercial constraints.

Second Cycle graduates should have:	**Documental Evidence**	**Personal Interview Evidence**
Ability to analyze and conceptualize new and complex engineering products, processes and systems within broader or multidisciplinary contexts; to select and apply the most appropriate and relevant methods from established analytical, computational and experimental methods or new and innovative methods; to critically interpret the outcomes of such analyses.	Programme content; Technical exercises; Case studies; Stimulated discussions; Modelling intensive work; Field trips; Work establishing concepts; exams; works; project works; thesis.	Strong basic knowledge; Structured mind; Ability to speculate; Prediction skills.
The ability to identify, formulate and solve unfamiliar complex engineering problems that are incompletely defined, have competing specifications, may involve considerations from outside their field of study and non-technical – societal, health and safety, environmental, economic and industrial – constraints; to select and apply the most appropriate and relevant methods from established analytical, computational and experimental methods or new and innovative methods in problem solving.	Programme content; Technical exercises; Case studies; Stimulated discussions; exams; works; project works; thesis.	Structured mind; Ability to speculate; Prediction skills; Experience in a diversity of situations. Attraction towards innovation and invention; Ability to make discoveries.
The ability to formulate and solve complex problems in new and emerging areas of their specialisation.	Programme content; Technical exercises; Documentation access tools; Stimulated discussions; exams; works; project works; thesis.	Attraction towards innovation; Ability to make discoveries; Culture of innovation.

4.3. ENGINEERING DESIGN

Graduates should be able to realise engineering designs consistent with their level of knowledge and understanding, working in cooperation with engineers and non-engineers. The designs may be of devices, processes, methods or artefacts, and the specifications could be wider than technical, including an awareness of societal, health and safety, environmental and commercial considerations.

Second Cycle graduates should have:	**Documental Evidence**	**Personal Interview Evidence**
The ability to develop, to design new and complex products (devices, artefacts, etc.), processes and systems, with specifications incompletely defined and/or competing, that require integration of knowledge from different fields and non-technical - societal, health and safety, environmental, economic and industrial commercial – constraints; to select and apply the most appropriate and relevant design methodologies or to use creativity to develop new and original design methodologies.	Programme content; Case studies; Research projects; Extra-curricular projects; Stimulated discussions. exams; works; project works; thesis.	Documentation skills; A broad knowledge of Engineering; Invention; Objectiveness; Hands-on personality; Strong basic knowledge; Structured mind; Ability to speculate.
The ability to design using knowledge and understanding at the forefront of their engineering specialization.	Programme content; Case studies; Research projects; Extra-curricular projects; Stimulated discussions. exams; works; project works; thesis.	Strong basic knowledge; Structured mind;

4.4. INVESTIGATIONS

Graduates should be able to use appropriate methods to pursue detailed investigations on technical issues consistent with their level of knowledge and understanding. Investigations may involve literature searches, the design and execution of experiments, the interpretation of data, and computer simulation. They may require that databases, codes of practice and safety regulations are consulted.

Second Cycle graduates should have:	**Documental Evidence**	**Personal Interview Evidence**
The ability to identify, locate and obtain required data.	Documentation access tools; Documentation organisation tools; exams; works; research project works; thesis.	Learning attraction; Objectiveness.

The ability to conduct searches of literature, to consult and critically use databases and other sources of information, to carry out simulation in order to pursue detailed investigations and research of complex technical issues.	Research projects; Documentation access tools; Documentation organisation tools; exams; works; thesis.	Learning attraction; Objectiveness.
The ability to consult and apply codes of practice and safety regulations.	Research projects; Documentation access tools; Documentation organisation tools; exams; works; thesis.	Learning attraction; Objectiveness;
The advanced laboratory/workshop skills and ability to design and conduct experimental investigations, critically evaluate data and draw conclusions.	Research projects; Documentation access tools; Modelling intensive work; Laboratory work; Stimulated discussions; Statistics disciplines.; exams.	Strong basic knowledge; Invention; Persistency; Hands-on personality. Strong reasoning ability
The ability to investigate the application of new and emerging technologies at the forefront of their engineering specialization.	Research projects; Documentation access tools; Laboratory work; Stimulated discussions; exams; works; thesis.	Attraction for innovation; Invention; Persistency; Ability for discovering; Hands-on personality.

4.5. ENGINEERING PRACTICE

Graduates should be able to apply their knowledge and understanding to developing practical skills for solving problems, conducting investigations, and designing engineering devices and processes. These skills may include the knowledge, use and limitations of materials, computer modelling, engineering processes, equipment, workshop practice, and technical literature and information sources. They should also recognise the wider, non-technical implications of engineering practice, ethical, environmental, commercial and industrial.

Second Cycle graduates should have:	**Documental Evidence**	**Personal Interview Evidence**
Comprehensive understanding of applicable techniques and methods of analysis, design and investigation and of their limitations.	Practical method presentations; Case studies; Field trips; Laboratory work; exams; project works; thesis.	Applications experience; Objectiveness.

Practical skills, including the use of computer tools, for solving complex problems, realizing complex engineering design, designing and conducting complex investigations.	Programme content; Case studies; Stimulated discussions; Documentation access tools; exams; works; project works; thesis.	Applications experience; A broad knowledge of Engineering; Ability to synthesize; Objectiveness.
Comprehensive understanding of applicable materials, equipment and tools, engineering technologies and processes, and of their limitations.	Practical method presentations; Case studies; Field trips; Laboratory work; exams; project works; thesis.	Applications experience; Objectiveness.
Ability to apply norms of engineering practice.	Practical method presentations; Case studies; Field trips; Laboratory work; exams; project works; thesis.	Applications experience; Objectiveness.
Knowledge and understanding of the non-technical – societal, health and safety, environmental, economic and industrial - implications of engineering practice.	Problem solving; Case studies; Field trips; exams; works; project works; thesis.	Applications experience; Persistency; Objectiveness.
Critical awareness of economic, organizational and managerial issues (such as project management, risk and change management.	Problem solving; Case studies; Field trips; exams; works; project works; thesis.	Applications experience; Persistency; Objectiveness.

4.6. MAKING JUDGEMENTS

The skills necessary for the practice of engineering, and which are applicable more widely, should be developed within the programme.

Second Cycle graduates should be able to:	**Documental Evidence**	**Personal Interview Evidence**
Ability to integrate knowledge and handle complexity, to formulate judgements with incomplete or limited information, that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgement.	Management courses; Group work reports; project works; thesis. Individual report assignments ; Work presentations.	Management driven; Self-confidence.

Ability to manage complex technical or professional activities or projects that can require new strategic approaches, taking responsibility for decision making.	Management courses; Group work reports; Individual report assignments ; Work presentations; project works; thesis.	Management driven; Self-confidence.

4.7. COMMUNICATION AND TEAM-WORKING

The skills necessary for the practice of engineering, and which are applicable more widely, should be developed within the programme.

Second Cycle graduates should be able to:	**Documental Evidence**	**Personal Interview Evidence**
Ability to use diverse methods to communicate clearly and unambiguously their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences in national and international contexts.	Communication techniques disciplines; Work presentations; project works; thesis.	Communication competences; Foreign language skills; Self-confidence.
Ability to function effectively in national and international contexts, as a member or leader of a team, that may be composed of different disciplines and levels, and that may use virtual communication tools.	Communication techniques disciplines; Work presentations; project works; thesis.	Communication competences; Foreign language skills; Self-confidence.

4.8. LIFELONG LEARNING

The skills necessary for the practice of engineering, and which are applicable more widely, should be developed within the programme.

Second Cycle graduates should be able to:	**Documental Evidence**	**Personal Interview Evidence**
Ability to engage in independent life-long learning.	Work presentations; project works; thesis.	independent learning skills
Ability to undertake further study autonomously.	Work presentations; project works; thesis.	independent learning skills

5. APPLICATION DOSSIER

The dossier for the evaluation process consists of the compilation of the information sheets presented in Appendix, duly filled in.

Individual files, for the enclosed sheets, in WORD or EXCEL format, as appropriate, will be supplied. For those cases where information should have to be repeated (such as the case of the list of Programme subjects in different tables) files will be supplied in EXCEL format in such a way that this information will have to be introduced only once.

The complete list of information sheets is as follows:

SHEET 0 – PROPOSAL OF COVER AND IDENTIFICATION PAGES

SHEET 1, 2 AND 3 - INTRODUCTORY DATA ABOUT THE INSTITUTION

Number of students, taught Programmes, summary of history, description of main premises.

SHEET 4 - PROGRAMME FORMALIZATION - PR1

Information about approval of the curriculum and the Programme's running, with any changes to the curriculum made recently or to be made in the future; the Legislation governing the Programme's set-up must be stipulated, namely its approval by the respective Ministry and/or other State body, University Senate etc.

SHEET 5 - HEI STRATEGY CONCERNING THE PROGRAMME – R1; R2

Higher Education Institution strategy concerning the Programme, outlining the target group, competitive advantages, threats, and sustainability/financial resources. Identification of the employability level.

SHEET 6 - COOPERATION WITH OTHER INSTITUTIONS - R3

Working Relationships with other external institutions, mentioning any protocols and partnerships, as well as links with interface institutions.

SHEET 7 AND 8 - GENERAL INFORMATION ABOUT THE PROGRAMME – R4

Information about the number of subjects, credits, total of timetabled classes per week, number of students, and specific learning outcomes offered by the Programme. Evaluation of the teaching given will be carried out in accordance with the specific outcomes laid down by the Professional College related to the area of the Programme.

SHEET 9 - PROGRAMME PLAN – R5

Distribution of weekly class hours, subject options and subject outlines

SHEET 10 - SUBJECT SHEETS – R5; R6

Data about pre-requisites necessary to take the subject, pedagogic objectives, linkage to other subjects upstream and downstream, theoretical and practical content, reasoning behind learning outcomes, the type of evaluation used and recommended bibliography.

SHEET 11 - COMPLEMENTARY ACTIVITY SHEETS – R5; R6

Data on pedagogic objectives, linkage upstream and downstream activities, content, reasoning behind learning outcomes, evaluation methods and recommended bibliography.

SHEET 12 – OUTCOMES – R7

Subject-by-subject breakdown of learning outcomes. Breakdown of learning outcomes stemming from additional activities: conferences, seminars and visits.

SHEET 13 - LIST OF TEACHING STAFF: PERMANENT STAFF – R8

General list of permanent teaching staff, summary table according to qualifications, newly-qualified teaching staff and teaching staff who are members of the Portuguese OEng. Teachers of engineering courses, whose basic degree is in engineering, must be registered in the OEng. It will also be a good practice to have the title of specialist in Engineering Teaching and Research by OEng.

SHEET 14 - LIST OF TEACHING STAFF: NON-PERMANENT STAFF – R8

General list of invited teaching staff, summary table according to qualifications, newly-qualified teaching staff and teaching staff who are members of the Portuguese OEng.

SHEET 15 - LIST OF STAFF IN CHARGE – R8

List and breakdown of staff in charge of subjects.

SHEET 16 - PROGRAMME DIRECTOR SHEET – R8

Outline of the Programme Director's academic and professional background.

SHEET 17 - TEACHING STAFF SHEETS – R8

Outline of the academic and professional background of the other Professional staff.

SHEET 18 - TEACHING STAFF PERSPECTIVE – R9

General opinion of teaching staff on all aspects of the Programme

SHEET 19 - MOVEMENT OF STUDENTS – R10

Enrolment of students and reasons for Programme attractiveness, entry conditions, applicants and entry grades.

SHEET 20 - STUDENTS AND EMPLOYERS' EVALUATION. PARTNERSHIPS FOR TRAINING PERIODS AND MOBILITY – R11

Survey results and action taken each academic year. List of partnerships enabling training periods and international mobility periods.

SHEET 21 - SUITABILITY OF PREMISES – R12

Overall information concerning quality and adequacy of premises.

SHEET 22 - PEDAGOGIC RESOURCES – R13

Overall information on pedagogical facilities .

SHEET 23 - PROGRAMME MONITORING: RATES OF SUCCESS – R14

Information concerning enrollments and approvals

SHEET 24 - PROGRAMME MONITORING: DESIGN/PROJECT WORK – R14

Information concerning titles and student success in individual Design or Project Work

SHEET 25 - PROGRAMME MONITORING: FOR SELF-CONTROL – R14

Information concerning internal indicators employed by the Institution in internal quality assurance procedures.

SHEET 26 - QUALITY PLAN – R15

Diagnostic methods, identification of critical aspects and treatment and progress along OEng recommended lines.

APPENDIX

SET OF INFORMATION SHEETS

FOR THE QUALITY ASSURANCE DOSSIER

S0. PROPOSAL OF COVER AND IDENTIFICATION PAGES

INSTITUTION IDENTIFICATION AND LOGO (Institution style)

Master Programme in
Title

Candidature to Ordem dos Engenheiros
For the award of the EUR-ACE® Label

Month, Year

Institutional Identification

Institution –

Rector/Director/Dean as appropriate –

E-Mail –

Telephone – *

Fax – *

Address -

Programme – Title

Programme Director –

E-Mail –

Telephone – *

Fax – *

Address - *

Secretariat (to whom correspondence should be addressed)

Name –

E-Mail –

Telephone –

Fax –

Address -

*** Optional information**

S1. INTRODUCTORY DATA ABOUT THE INSTITUTION: PART A [1]

(INSTITUTE, FACULTY, SCHOOL, UNIVERSITY)

INSTITUTION:	

ACADEMIC YEAR OF APPLICATION AND SUPPORT DOCUMENTS - N-1/N	/

GOVERNING BODIES

DIRECTOR/CHAIRPERSON/ VICE-CHANCELLOR	
CHAIRPERSON TEACHING/ BOARD	
CHAIRPERSON SCIENTIFIC BOARD	

TEACHING AND NON-TEACHING STAFF

TOTAL STAFF academic and non academic		**TOTAL TEACHING STAFF**		**STAFF WITH PHD** or equivalent		**OTHER TEACHING STAFF**	

*

Nº OF STUDENTS IN THE ACADEMIC YEAR - N-1/N = EG. 2007/2008

	N-5/N-4	*N-4/N-3*	*N-3/N-2*	*N-2/N-1*	*N-1/N*
Nº OF FC FIRST REGISTRATIONS					
Nº OF SCM FIRST REGISTRATIONS					
TOTAL NUMBER OF FIRST REGISTRATIONS					
TOTAL REGISTERED IN FC PROGRAMMES					
TOTAL REGISTERED IN SCM PROGRAMMES					
TOTAL REGISTERED IN FC, SCM PROGRAMMES					
Nº OF FIRST REGISTRATIONS AS DOCTORAL STUDENTS					
TOTAL REGISTERED AS DOCTORAL STUDENTS					

[1] This sheet refers to the Institution which houses the Programmes, which is both academically and pedagogically autonomous, and which also undertakes the teaching of Basic Subjects.

CONCLUSIONS IN CIVIL YEAR - N-1= EG. 2007

Conclusions (certificates issued) of FC[2]					
Conclusions (certificates issued) of SCM [3]					
CONCLUSIONS OF FC+SCM					
Conclusions of PhDs					

ADDRESS OF PREMISES

[2] All First Cycle certificates
[3] All Master certificates

S2. INTRODUCTORY DATA ABOUT THE INSTITUTION – PART B [4]

(INSTITUTE, FACULTY, SCHOOL, UNIVERSITY)

FIRST CYCLE PROGRAMMES TAUGHT AT THE INSTITUTION:

NAME OF THE PROGRAMME	*Nº STUDENTS*	*Nº TOTAL TEACHING STAFF*	*Nº PHD STAFF*

MASTER PROGRAMMES TAUGHT AT THE INSTITUTION:

NAME OF THE PROGRAMME	*Nº STUDENTS*	*Nº TEACHING STAFF*	*Nº PHD STAFF*

DOCTORATE PROGRAMMES TAUGHT AT THE INSTITUTION:

NAME OF THE PROGRAMME	*Nº STUDENTS*	*Nº TEACHING STAFF*	*Nº PHD STAFF*

[4] This sheet refers to the Institution which houses the Programmes, which is both academically and pedagogically autonomous, and which also undertakes the teaching of Basic Subjects.

S3. INTRODUCTORY DATA ABOUT THE INSTITUTION – PART C [5]

(INSTITUTE, FACULTY, SCHOOL, UNIVERSITY)

INSTITUTION:	

SUMMARY OF INSTITUTION'S HISTORY:

Development of the Institution's vocation, its pedagogic and academic trajectory, its integration in the National Education System, be this private or public. Outline of the different phases in the Institution's life from its foundation, giving an idea about the growth in student numbers, types of taught Programmes, changes and extension work to premises, name changes, etc.

DESCRIPTION OF MAIN PREMISES:

The current installations should be described in such a way as to include both the most relevant aspects and their suitability for the Higher Education Institution's needs, including namely libraries, centralized workshops, canteens, experimental installations, specific areas of research, student accommodation, business start-up hubs, interface institutes.

[5] This sheet refers to the Institution which houses the Programmes, which is both academically and pedagogically autonomous, and which also undertakes the teaching of Basic Subjects.

S4. PROGRAMME FORMALISATION – PR 1

INSTITUTION:	
PROGRAMME:	

CURRENT PROGRAMME

Date Programme was set up or the last formally-approved change:	
Academic year in which it came into effect:	

PROOF OF PROGRAMME'S LEGITIMATE RUNNING:

NEW PROGRAMME PENDING APPROVAL (IF APPLICABLE)	**DATES**
Final calendar year degrees were awarded from the former curriculum / Programme in:	
First calendar year degrees will be awarded from the new curriculum / Programme in:	

S5. HEI [6] STRATEGY CONCERNING THE PROGRAMME – R1; R2

INSTITUTION:	
PROGRAMME:	

HISTORICAL ROOTS OF THE PROGRAMME:

[6] HEI – Higher Education Institution

SPECIAL FEATURES OF THE PROGRAMME COMPARED WITH OTHERS OF A SIMILAR NATURE:

Teaching, applied research, development of pedagogic projects.

COMPETITIVE ADVANTAGES AND THREATS:

COMPETITIVE ADVANTAGES	THREATS
Applicants, teaching staff, teaching facilities, Higher Education Institution environment and training given.	Applicants, teaching staff, teaching facilities, Higher Education Institution environment and training given.

PROGRAMME SUSTAINABILITY:

Financial sustainability and resources outline, demand, market predictions and institutional support. Employability level.

S6. COOPERATION WITH OTHER INSTITUTIONS [7] – R3

INSTITUTION:	
PROGRAMME:	

PROTOCOLS AND PARTNERSHIP AGREEMENTS WITH OTHER INSTITUTIONS/ORGANIZATIONS:

INTERFACE INSTITUTIONS AND THE WAY THEY OPERATE IN CONJUNCTION WITH THE HEI:

[7] Activities related with reaching staff involved in the Programme

S7. GENERAL INFORMATION ABOUT THE PROGRAMME: PART A – R4

INSTITUTION:	
PROGRAMME:	

ACADEMIC YEAR OF APPLICATION AND SUPPORT DOCUMENTS - N-1/N	/

SUBJECTS				**FINAL WORK**		**PROFESSIONAL TRAINING**	
SEMESTER		*ECTS*		*YES*		*YES*	
ANNUAL				*NO*		*NO*	
TOTAL WORKLOAD (HRS)				*PROGRAMME (YEARS)*		*TRAINING EXPERIENCE (WEEKS)*	
TOTAL CONTAC TIMES (HRS)							

CONTACT TIMES (HOURS PER WEEK):

YEAR	1ST YEAR		2ND YEAR	
SEMESTER	1ST	2ND	1ST	2ND
LECTURES				
TUTORIALS				
PRACTICAL / PROJECT				
TOTAL				

NUMBER OF STUDENTS IN THE LAST 5 YEARS:

ACADEMIC YEAR (N-1/N)	ENTRY IN 1ST YEAR	TOTAL IN 1ST YEAR	TOTAL IN PROGRAMME

CIVIL YEAR	GRADUATES

PROGRAMME GENERAL OUTCOMES:

S8. GENERAL INFORMATION ABOUT THE PROGRAMME: PART B – R4

INSTITUTION:	
PROGRAMME:	

OUTCOMES (COMPETENCES AND SKILLS) PER SCIENTIFIC AREA:

AREA 1
AREA 2
AREA 3
AREA 4
AREA 5

S9. PROGRAMME PLAN – R5

INSTITUTION:	
PROGRAMME:	

COMPULSORY SUBJECTS	**Y**	**S**	**REF (*)**	**CONTACT HOURS PER SEMESTER**				**CREDITS ECTS**
				LECTURES	**TUTORIALS**	**PRACTICAL/PROJECT**	**TOTAL**	
(add rows as required)								
ELECTIVES								
(add rows as required)								

Ref (*) – Subject type: Fill in the type of subject – Fundamental Subjects (B), Engineering Science (C), Specialty (S), Option (O) and complementary subjects (P). The number of weekly hours for each semester must be included in the following table subject by subject.

Note: - If the Programme is made up of fields, fold the sheets so as to separate each field individually.

S10. SUBJECT SHEET – R5/R6

INSTITUTION:	
PROGRAMME:	
SUBJECT/UNIT:	

I - IDENTIFICATION				
ACADEMIC YEAR –		**SUBJECT AREA/GROUP * -**		**INTERNAL CODE –**
YEAR:	**SEM:**	**CONTACT TIME - HOURS/WEEK:**	**ECTS:**	**LEVEL (B/I/A)**:**
FORMAL PREREQUISITES:				
SUBJECT WEBSITE URL:				

TEACHING STAFF				
	NAME	**POSITION**	**ACADEMIC BACKGROUND**	**% OCC. (TEACHING STAFF DISTRIBUTION)**
IN CHARGE				
OTHER				

*Fundamental Subjects (B), Engineering Science (C), Specialty (S), Option (O), Complementary subjects (P).
** Basic/Intermediate/Advanced

II – AIMS, SYNOPSIS, CHARACTERIZATION
Background (max. 600 characters) – Provide an overview of the technical and scientific fields that justify this Unit
Aims (max. 750 characters) – Namely pedagogic objectives and how this Unit contributes for the Programme
Contents (max. 1000 characters) Describe programme of a theoretical and practical nature as appropriate

INSTITUTION:	
PROGRAMME:	
SUBJECT/UNIT:	

Main Teaching Material
Namely main textbooks and other basic support texts

Complementary Teaching Material
Complementary references of books, papers and technical information, as appropriate

Teaching/Learning Tools
Software, e-learning tools, etc..

Previous knowledge assumed as acquired

Material	**Source**
Describe in rows expected knowledge	AND Identify Units where they are taught

Teaching/learning methodology
Namely describe innovative methods

Characterization of objectives and program
A – Estimated percent distribution of scientific and technological contents

- Scientific component (establishes and develops scientific bases) – ??
- Technological component (apply to design and process operation) - ?? %

Characterization of objectives and program
B – Outcomes – in conformity with EUR-ACE® criteria
Describe what the student is expected to 'understand' or 'know' or 'be able to do' after this module and with relation to the eight outcomes of the EUR-ACE® framework standards:
Knowledge and Understanding –
Engineering Analysis –
Engineering Design –
Investigations –
Engineering Practice –
Making Judgments –
Communication and Team-Working –
Lifelong Learning -

III – ASSESSMENT PROCEDURE
Self Assessment – Example sheets, paper & pencil versus computer-aided worked examples.
Assessment by teachers –

S11. COMPLEMENTARY ACTIVITY SHEET – R5/R6

INSTITUTION:	
PROGRAMME:	
ACTIVITY : (training, voluntary, work, study visits, etc.)**:**	

I - IDENTIFICATION				
ACADEMIC YEAR –		**SUBJECT AREA/GROUP -**		**INTERNAL CODE –**
YEAR:	**SEM:**	**CONTACT TIME - HOURS/WEEK:**	**ECTS:** If appropriate	**LEVEL (B/I/A)** If appropriate
FORMAL PREREQUISITES:				

TEACHING STAFF				
	NAME	**POSITION**	**ACADEMIC BACKGROUND**	**% OCC. (TEACHING STAFF DISTRIBUTION)**
COORDINATOR				
OTHER				

II - AIMS, CHARACTERIZATION
Background (max. 600 characters) – Provide a concise overview of the technical and scientific fields that justify this activity
Aims (max. 750 characters) – Namely pedagogic objectives and how this Unit contributes for the Programme
Contents (max. 1000 characters) Describe basic characteristics of activity

INSTITUTION:	
PROGRAMME:	
ACTIVITY : (training, voluntary, work, study visits, etc.)**:**	

Characterization of objectives and program

Outcomes – in conformity with EUR-ACE® criteria

Describe what the student is expected to 'understand' or 'know' or 'be able to do' after this module and with relation to the 8 outcomes of the EUR-ACE® framework standards:

Knowledge and Understanding –

Engineering Analysis –

Engineering Design –

Investigations –

Engineering Practice –

Making Judgments –

Communication and Team-Working –

Lifelong Learning -

III - ASSESSMENT PROCEDURE
Self Assessment – Students reports and other
Assessment by teachers –

S12. OUTCOMES – R7

INSTITUTION:	
PROGRAMME:	

Note: identify the outcomes for each unit and in each one describe to what extent the student's acquisition of t
presentations, etc...)

CORE STRUCTURE

COMPULSORY SUBJECTS	Y	S	KNOWLEDGE AND UNDERSTANDING	ENG. ANALYSIS	ENG. DESIGN	INVESTIGATIONS	ENG. PRACTICE
(add rows as required)							

ELECTIVES							
	Y	S	KNOWLEDGE AND UNDERSTANDING	ENG. ANALYSIS	ENG. DESIGN	INVESTIGATIONS	ENG. PRACTICE

(add rows as required)										

COMPLEMENTARY ACTIVITIES

CONFERENCES, VISITS, COMPETITIONS, VOLUNTARY PROJECTS, ETC.	Y	S	KNOWLEDGE AND UNDER STANDING	ENG. ANALYSIS	ENG. DESIGN	INVESTIGATIONS	ENG. PRACTICE	MAKING JUDGMENTS	COMMUNICATION AND TEAM WORKING	LIFELONG LEARNING
(add rows as required)										

S13. LIST OF TEACHING STAFF: PERMANENT STAFF – R8

INSTITUTION:	
PROGRAMME:	

PERMANENT TEACHING STAFF

NAME	ACADEMIC PROFESSIONAL POSITION	AGE	QUALIFICATIONS (DEGREES)	GUEST %	APPROVAL DATE	YEARS OF SERVICE	OENG	SPECIALIST*

*specialist in Engineering Teaching and Research by OEng.

S14. LIST OF TEACHING STAFF: NON-PERMANENT STAFF – R8

INSTITUTION:	
PROGRAMME:	

NON-PERMANENT TEACHING STAFF

NAME	ACADEMIC PROFESSIONAL POSITION	AGE	QUALIFICATIONS (DEGREES)	GUEST %	APPROVAL DATE	YEARS OF SERVICE	OENG	SPECIALIST*
(add rows as required)								

***** title of specialist in Engineering Teaching and Research by OEng.

S15. LIST OF STAFF IN CHARGE – R8

INSTITUTION:	
PROGRAMME:	

SUBJECT NAME	YEAR	SEM	MEMBER OF TEACHING STAFF IN CHARGE	ACADEMIC PROFESSIONAL POSITION (1)	DEPT.	EMPLOYMENT STATUS (2)	ACADEMIC BACKGROUND (3)	ACADEMIC DEGREE	OENG (4)	SPECIALIST(5)
								Lic.		
(add rows as required)										

Notes: **(1)** – differs from University to Polytechnic Institute level. **(2)** - 100% occupation equivalent to 35 Hours per week **(3)** – Basic training: Engineering or other (specify)
(4) - Member, Senior or Fellow **(5)** Specialist in Engineering Teaching and Research by OEng.

S16. PROGRAMME DIRECTOR SHEET – R8

INSTITUTION:	
PROGRAMME:	
NAME:	
OENG Nº	
OENG SPECIALIST	
ACADEMIC POSITION:	**YEAR OF BIRTH:**
PERSONAL WEBSITE URL:	**E-MAIL:**

ACADEMIC QUALIFICATIONS

YEAR	INSTITUTION	DEGREE	SCIENTIFIC DOMAIN

FURTHER TECHNICAL OR ACADEMIC TRAINING OR QUALIFICATIONS

YEAR	TRAINING INSTITUTION	PROGRAMME/ACTIVITY

ACADEMIC CAREER

YEARS	EMPLOYER	POSITION/DUTIES

NON-ACADEMIC PROFESSIONAL CAREER

YEARS	EMPLOYER	POSITION/DUTIES

SCIENTIFIC, PEDAGOGICAL AND PROFESSIONAL PRODUCTIVITY INDICES, NUMBER OF:

BOOKS AS AUTHOR		**NATIONAL RESEARCH CONTRACTS (FCT, AND OTHER PROJECTS)**	
BOOKS AS EDITOR		**INTERNATIONAL RESEARCH CONTRACTS (EU AND OTHER SOURCES)**	
SCI JOURNAL PAPERS		**R&D&I CONTRACTS WITH INDUSTRY**	
BOOK CHAPTERS		**TECHNOLOGY TRANSFER CONTRACTS**	
CONFERENCES PAPERS		**PATENTS**	

OPINION PAPERS		PROTOTYPES	
INVITED CONFERENCES		MAJOR ENGINEERING PROJECTS	
PHD THESES		ORGANIZATION OF RELEVANT EVENTS	
MASTER THESES		PRIZES AND AWARDS	

Up to 5 Main Publications (Books or SCI Papers)

YEAR	BOOKS – AUTHORS, TITLE, PUBLISHER JOURNALS - AUTHORS, TITLE, JOURNAL, VOLUME, PAGES

UP TO 5 PHD SUPERVISIONS CONCLUDED

YEAR	INSTITUTION	CANDIDATE	TITLE

UP TO 5 PATENTS REGISTERED

YEAR	REFERENCE	AUTHORS	PATENT DESCRIPTION

UP TO 5 TECHNOLOGY TRANSFER CONTRACTS

YEAR	COMPANY /ORGANIZATION	TECHNOLOGY TRANSFER IDENTIFICATION

UP TO 5 RELEVANT RESEARCH CONTRACTS

YEARS	FINANCING INSTITUTION	REFERENCE	RESEARCH INSTITUTIONS INVOLVED	TITLE

UP TO 5 CONTRACTS/PROTOCOLS/AGREEMENTS WITH INDUSTRY

YEARS	COMPANY /ORGANIZATION	TITLE

UP TO 5 MAIN ENGINEERING PROJECTS

YEAR	AUTHORS, PROJECT TITLE, RECEIVING ENTITY

UP TO 3 PRIZES AND MERITS RECEIVED

YEAR	PRIZE

UP TO 5 MAIN INVITED CONFERENCES

YEAR	EVENT, PLACE, TITLE

UP TO 3 ORGANIZATIONS OF RELEVANT SCIENTIFIC OR TECHNICAL EVENTS

YEAR	EVENT, FUNCTION, TYPE, PLACE,

RELEVANT FUNCTIONS OF MANAGEMENT AT ACADEMIC AND PROFESSIONAL LEVEL

YEARS	FUNCTION, POSITION,

S17. TEACHING STAFF SHEET – R8

INSTITUTION:	
PROGRAMME:	
NAME:	
OENG Nº	
OENG SPECIALIST	
ACADEMIC POSITION:	**YEAR OF BIRTH:**
PERSONAL WEBSITE URL:	**E-MAIL:**

ACADEMIC QUALIFICATIONS

YEAR	INSTITUTION	DEGREE	SCIENTIFIC DOMAIN

FURTHER TECHNICAL OR ACADEMIC TRAINING OR QUALIFICATIONS

YEAR	TRAINING INSTITUTION	PROGRAMME/ACTIVITY

ACADEMIC CAREER

YEARS	EMPLOYER	POSITION/DUTIES

NON-ACADEMIC PROFESSIONAL CAREER

YEARS	EMPLOYER	POSITION/DUTIES

SCIENTIFIC, PEDAGOGICAL AND PROFESSIONAL PRODUCTIVITY INDICES, NUMBER OF:

BOOKS AS AUTHOR		**NATIONAL RESEARCH CONTRACTS (FCT, AND OTHER PROJECTS)**	
BOOKS AS EDITOR		**INTERNATIONAL RESEARCH CONTRACTS (EU AND OTHER SOURCES)**	
SCI JOURNAL PAPERS		**R&D&I CONTRACTS WITH INDUSTRY**	
BOOK CHAPTERS		**TECHNOLOGY TRANSFER CONTRACTS**	
CONFERENCES PAPERS		**PATENTS**	
OPINION PAPERS		**PROTOTYPES**	

INVITED CONFERENCES		MAJOR ENGINEERING PROJECTS	
PHD THESES		ORGANIZATION OF RELEVANT EVENTS	
MASTER THESES		PRIZES AND AWARDS	

Up to 5 Main Publications (Books or SCI Papers)

YEAR	BOOKS – AUTHORS, TITLE, PUBLISHER JOURNALS - AUTHORS, TITLE, JOURNAL, VOLUME, PAGES

UP TO 5 PHD SUPERVISIONS CONCLUDED

YEAR	INSTITUTION	CANDIDATE	TITLE

UP TO 5 PATENTS REGISTERED

YEAR	REFERENCE	AUTHORS	PATENT DESCRIPTION

UP TO 5 TECHNOLOGY TRANSFER CONTRACTS

YEAR	COMPANY /ORGANIZATION	TECHNOLOGY TRANSFER IDENTIFICATION

UP TO 5 RELEVANT RESEARCH CONTRACTS

YEARS	FINANCING INSTITUTION	REFERENCE	RESEARCH INSTITUTIONS INVOLVED	TITLE

UP TO 5 CONTRACTS/PROTOCOLS/AGREEMENTS WITH INDUSTRY

YEARS	COMPANY /ORGANIZATION	TITLE

UP TO 5 MAIN ENGINEERING PROJECTS

YEAR	AUTHORS, PROJECT TITLE, RECEIVING ENTITY

UP TO 3 PRIZES AND MERITS RECEIVED

YEAR	PRIZE

UP TO 5 MAIN INVITED CONFERENCES

YEAR	EVENT, PLACE, TITLE

UP TO 3 ORGANIZATIONS OF RELEVANT SCIENTIFIC OR TECHNICAL EVENTS

YEAR	EVENT, FUNCTION, TYPE, PLACE,

RELEVANT FUNCTIONS OF MANAGEMENT AT ACADEMIC AND PROFESSIONAL LEVEL

YEARS	FUNCTION, POSITION,

S18. TEACHING STAFF PERSPECTIVE – R9

INSTITUTION:	
PROGRAMME:	

MEMBER OF TEACHING STAFF	
SUBJECT AREA	

COMMENTS CONCERNING STUDENT CENTRED TEACHING/LEARNING METHODOLOGIES

Comments on efforts for redesign of Programme contents and application of student centred teaching/learning methodologies; use of new e-learning tools

COMMENTS CONCERNING STUDENT SUCCESS RATE:

Outline of the student failure rate in the subjects taught by the member of teaching staff along with predictable trends and compensatory measures taken:

MAIN TEACHING-SUPPORT SHORTAGES:

Shortages of research resources, bibliography, seminar participation, and other knowledge-exchange forums:

AVAILABILITY OF AUDIO-VISUAL RESOURCES:

Evaluation of the availability of audio-visual resources, pedagogic software and teaching rooms.

AVAILABILITY OF LABORATORIES AND APPLIED TRAINING RESOURCES:

Evaluation of the availability of laboratories, the organization of study visits, fieldwork activities, lectures and resources for organizing visits:

EVALUATION OF PROGRAMME COORDINATION:

Efficiency of Programme coordination, attendance at coordination meetings and their main outcomes.

THE HIGHER EDUCATION INSTITUTION ENVIRONMENT:

The internal life of a Higher Education Institution can vary between enthusiasm and routine, aggressiveness and camouflage, cooperation and rivalry, empathy and divergence, partnership and opposition, compromise and disinterest and lastly, teamwork or individualism. These will give an idea as to the extent the environment cares for the participation of all and if the prevailing mentality can result in stimulating activity.

S19. MOVEMENT OF STUDENTS – R10

INSTITUTION:	
PROGRAMME:	

PREREQUISITES

Prerequisites needed for the acceptance of students, NAMELY requirements in the area of Mathematics

CORE REQUISITES

Conditions to be evaluated for the selection of the applicant students

TRANSFERS (TO THE PROGRAMME FROM OUTSIDE):

ACADEMIC YEAR	SCHOOLS	1ST YEAR	2ND YEAR	TOTAL

STUDENT MOVEMENT WITH REFERENCE TO THE BEGINNING OF THE YEAR:

ACADEMIC YEAR	A) NEWLY ADMITTED	B) TRANSFERRED	C) CONCLUDED THE PROGRAMME	D) LEFT WITHOUT CONCLUDING	ATTENDING THE PROGRAMME
N-5 / N-4					***X***
					X+A+B-C-D
N-1/N					

GRADUATE LEAVERS:

ACADEMIC YEAR	TOTAL	GRADUATES WHO FINISHED PROGRAMME IN				AVERAGE YEARS
	GRADUATES	N YEARS	N+1 YEARS	N+2 YEARS	N+3 YEARS	

S20. STUDENTS AND EMPLOYERS' EVALUATION – R11

INSTITUTION:	
PROGRAMME:	

RELEVANT ACTION STEMMING FROM PEDAGOGIC SURVEYS OF STUDENTS:

ACADEMIC YEAR	NUMBER OF PEDAGOGIC SURVEY ANSWERS	ACTION TAKEN
N-1		
N-2		
N-3		

N = Reference Academic year

RELEVANT RESULTS FROM SURVEYS OF GRADUATES:

RELEVANT RESULTS FROM SURVEYS OF EMPLOYERS:

LIST OF PARTNERSHIPS ENABLING TRAINING PERIODS AND INTERNATIONAL MOBILITY:

S21. SUITABILITY OF PREMISES – R12

INSTITUTION:	
PROGRAMME:	

SUITABILITY OF PREMISES:

For this requisite, evidence or information should be provided on: quality of premises and their suitability for the purposes allocated to them; quality of the maintenance of premises and their state of use; number of classrooms, laboratories, and amphitheaters regarding the size of the student body using them.

S22. PEDAGOGIC RESOURCES – R13

INSTITUTION:	
PROGRAMME:	

PEDAGOGIC FACILITIES:

Information should be provided that allows the assessment of:
Laboratory equipment and conditions of use.
The correct storage of dangerous, explosive or inflammable products and materials (of paramount relevance) .
Digital access to up-to-date journals, publications and information and good facilities for reading, searching for information, and copying information.
Quality of space in the Library for students to work and space for the storage of the documents contained within.
Access to informatics resources for training and the existence of a wireless network.
Software applications made available in accordance with subjects that must be up-to-date and supported by enough manuals.
Study and recreational facilities both in class time and break time for students undergoing training, by providing bar and canteen facilities.
Support facilities (refectory, stationery shop, study rooms, meeting rooms, etc.) for teaching staff and students, centrally located and easily accessible.
Offices and working facilities for Teaching Staff and Technical Support Staff with suitable levels of comfort and with easy access near the individual's main working area.
Specialized teaching staff, technical support and funding allocated for students to be able to carry out voluntary Engineering work.
Sport facilities.
The use by the Higher Education Institution of external premises and services to make good their own shortcomings, along with an exact description of how they are used and under what conditions.

S23. PROGRAMME MONITORING: RATES OF SUCCESS – R14

INSTITUTION:	
PROGRAMME:	

ACADEMIC YEAR:	/

COMPULSORY SUBJECTS	YEAR	SEMESTER	TOTAL ENROLLED	% EVAL/ENROLL	% PASS/ENROLL	% PASS/EVAL	1ST ENROLL/ TOTAL ENROLLED
(add rows as required)							
ELECTIVES SUBJECTS							
(add rows as required)							

SUMMARY

YEARS	TOTAL ENROLLED	% EVAL/ENROLL	% PASS/ENROLL	% PASS/EVAL	1ST ENROLL/ TOTAL ENROLLED
1ST YEAR					
2ND YEAR					

S24. PROGRAMME MONITORING: DESIGN/PROJECT WORK – R14

INSTITUTION:	
PROGRAMME:	

ACADEMIC YEAR:	/

STUDENT'S NAME (ABBREV.)	FINAL MARK	TITLE OF WORK
(add rows as required)		

S25. PROGRAMME MONITORING: SELF-CONTROL – R14

INSTITUTION:	
PROGRAMME	

INSTITUTIONAL ANALYSIS OF PROGRAMME'S GENERIC INDICATORS

Example of generic indicators: Number of Masters finished in the last 5 years
Number of PhD's finished in the last 5 years. National and international prizes awarded to students and teaching staff. Number of grants allocated to students and teaching staff.
Merits awarded to the Institution.

INSTITUTIONAL ANALYSIS OF INDICATORS CONCERNING STUDENTS

Example of indicators concerning students: Applications to the Programme compared with general demand in the last 5 years. First-choice applications. Age Distribution per curricular year (present year). Average student age over the last 5 academic years
Retention index per subject (previous year). Retention index per curricular year (previous year). Average length of time in years needed to obtain a degree over the last five academic years. Failure rate per subject. Record of attendance of practical classes
Record of attendance of theoretical classes. Evaluation of subjects (surveys of students)
Global evaluation of Programme (survey of students and employers). Number of annual drop-outs. Number of students exceeding the maximum time limit envisaged by the law for the Programme.

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INSTITUTIONAL ANALYSIS OF INDICATORS CONCERNING TEACHING STAFF

Example of indicators concerning teaching staff: Applications to the Higher Education Institution. Information on length of time staff have been at the Higher Education Institution. Analysis of the recommendations from the teaching staff survey. Teaching staff age distribution per curricular year (present year). Average age of teaching staff over the last five years. Record of teaching staff attendance and punctuality - practical classes. Record of teaching staff attendance and punctuality – theoretical classes. Student subject evaluation (survey of students). Number of teaching staff finishing PhD Programme.

S26. QUALITY PLAN – R15

INSTITUTION:	
PROGRAMME:	

DIAGNOSTIC METHODS:

IDENTIFICATION OF CRITICAL ASPECTS:

HANDLING OF OENG RECOMMENDATIONS:

ANNUAL PROGRESS REPORTS REGARDING OENG RECOMMENDATIONS: